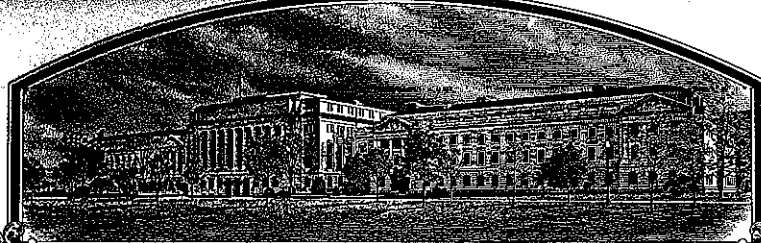


No.

200700080



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:
California Cooperative Rice Research Foundation, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

RICE

'Calmati-202'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of November, in the year two thousand and seven.

Attest:

[Signature]

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

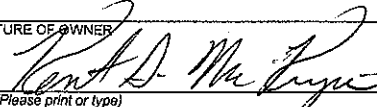
[Signature]
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER California Cooperative Rice Research Foundation		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 04-Y-153		3. VARIETY NAME Calmati-202	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Rice Experiment Station PO Box 306, 955 Butte City Hwy. Biggs, CA 95917		5. TELEPHONE (include area code) 530-868-5481		FOR OFFICIAL USE ONLY PVPO NUMBER #200700080 FILING DATE DECEMBER 28, 2006	
		6. FAX (include area code) 530-868-1730			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Non Profit Organization		8. IF INCORPORATED, GIVE STATE OF INCORPORATION CA		9. DATE OF INCORPORATION 1912	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Dr. Kent S. McKenzie Director Rice Experiment Station PO Box 306 Biggs, CA 95917				FILING AND EXAMINATION FEES: \$ 4,382.00 DATE 12/28/06 CERTIFICATION FEE: \$ 768.00 DATE 10/29/07	
11. TELEPHONE (include area code) 530-868-5481		12. FAX (include area code) 530-868-1730		13. E-MAIL ksmckenzie@crrf.org	
14. CROP KIND (Common Name) Rice		16. FAMILY NAME (Botanical) Gramineae		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Oryza sativa L.		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit g. <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) h. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)				20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input type="checkbox"/> NO (If "no", go to item 23) 21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED 22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input checked="" type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)				24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER		SIGNATURE OF OWNER 			
NAME (Please print or type)		NAME (Please print or type) Kent S. McKenzie			
CAPACITY OR TITLE		CAPACITY OR TITLE Director/SECRETARY		DATE December 19, 2006	

(See reverse for instructions and information collection burden statement)

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.) Foundation seed is maintained by the Rice Experiment Station (RES). Normal seed multiplication starts with head-row seed used for breeders which in turn is used to plant foundation. Headrow seed is produced as necessary. RES policy allows foundation seed to be used to produce Foundation seed when approved by CCRF.

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.) Calmati-202 was jointly released by the California Co-op Rice Research Fdn, California Agricultural Exp. Station, and the USDA-ARS. Foundation will be distributed to California rice seed growers April 1, 2006 for the purpose of producing registered seed.

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

Tentative plans are to seek a utility patent for Calmati-202.

U.S. Patent Application No 11/674,275 filed 2/13/07.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

'CALMATI-202' RICE

19. Exhibit A. Origin and Breeding History of the Variety

1-Genealogy: Calmati-202 is an early maturing, pubescent, basmati type long-grain variety originated from the cross R22053 made at the Rice Experiment Station (RES), Biggs, CA in 1996. Its pedigree is 'A-201'/9543483. A-201 is an early maturing aromatic semidwarf long-grain cultivar released by the California Cooperative Rice Research Foundation (CCRRF) in 1996. The male parent, 9543483 is a sister line of Calmati-201 an aromatic variety released by CCRRF in 1999. The male parent, which is an F₄ selection from the cross R17918 that produced Calmati-201, has shown higher cooked kernel elongation ratio than Calmati-201. The R17918 cross has two basmati type plant introductions in its pedigree. They include PI373938, named 'Dehraduni' and PI475918, an introduction from Pakistan which is a semidwarf mutant of 'Basmati 370'. Calmati-202 is the product of modified pedigree breeding. The F₁ generation was advanced in 1997 Hawaii winter nursery and F₂ was advanced in 1997 RES nursery.

2-Selection and Multiplication: Selection was primarily made for improved basmati type milled kernel appearance (length and width) and basmati cooking quality (cooked kernel elongation) under California growing conditions. An original F₃ bulk selection designated as 9844473 was made in 1998 to verify the presence of a desired level of cooked kernel elongation. Subsequent selection and purification was made and the bulked harvested row was used at each step to verify the presence of the desirable quality attributes. A single F₇ row designated as 0267068 was bulked in 2002 and panicles were used for headrow production. This selection was subsequently tested in 2003 statewide tests as 03-Y-152 and in 2004-2005 tests as 04-Y-153. Headrow purification and increase was made in 2003 Hawaii winter nursery and 2003 to 2004 RES nursery. 410 headrows grown in 2004 were used to plant 2005 foundation field. Calmati-202 was cooperatively released by CCRRF, California Agricultural Experiment Station, and United States Department of Agriculture, Agricultural Research Service.

3- Uniformity and Stability: Approximately 85 cwt of foundation seed was produced in 2005 and the field inspected and approved by California Crop Improvement Association (CCIA). Sufficient purified breeder seed was produced in 2005 to produce foundation seed in 2006. Visual inspection (seedling vigor, heading date, plant height, grain shape, etc.) of headrows was used as criteria to confirm cultivar purity. This is the standard procedure used at RES to monitor and maintain breeder seed of currently grown California rice cultivars. Classes of seed will be breeder, foundation, registered, and certified seed produced in California. Foundation seed can be used to produce foundation seed if necessary and headrow and breeder seed will be produced in foundation fields as necessary to maintain cultivar purity. Calmati-202 has been observed in seed increase and production fields and found to be uniform and stable.

4 -Variants: The foundation field and headrows were rogued multiple times and off-types, putative out crosses, and other visual variants were removed from the field. These included medium grains, taller pubescent long grains, smooth long grains, and pubescent medium-grain outcrosses (in a frequency of less than 0.01%) which were rogued from the headrow, breeder, and foundation fields.

19. Exhibit B. Statement of Distinctiveness

1 -Variety Differences: Calmati-202 is a basmati type long-grain rice that can be classified as Gramineae, *Oryza sativa* L., and tropical japonica. It is a pubescent photoperiod insensitive, early maturing semidwarf cultivar. It has been released to serve the California specialty long-grain rice market. Calmati-202 is most similar to Calmati-201. Improved grain and cooking quality is the primary justification for the release of Calmati-202. Milled grains of Calmati-202 are significantly more slender than Calmati-201, but not as slender as imported basmati types. A slender milled and cooked grain is a primary criterion for a basmati type rice. Length /width ratios and cooked grain length values are used for characterization of basmati type grains.

Grain yield of Calmati-202 is slightly lower than Calmati-201. In 2004, 2005 and 2006, Calmati-202 yields were lower by 9, 11, and 14 percent, respectively at RES. Calmati-202 is shorter in height than Calmati-201 at maturity, with its panicles extending above the leaf canopy. Flag leaf angle after heading of Calmati-202 is intermediate whereas Calmati-201 is erect.

2 -Statistical data: Agronomic and milling data from two years of testing at RES is presented in Table 1. Agronomic data is part of the intermediate group of the multiple location University of California Cooperative Extension (UCCE) Statewide Yield Testing program that was conducted from 2004 to 2006.

Grain characteristics data evaluated by a sample size of 80 milled kernels and 50 cooked kernels at RES quality lab in 2004 and 2006 show the differences between Calmati-202, Calmati-201 and an imported basmati (Table 2).

Table 1. Agronomic and Milling Characteristics of Calmati-202, Calmati-201, and L-205 from 2004 to 2005 in UCCE Statewide Yield Test (Intermediate-Late Group) at RES, Biggs, California.

Year	Trait	Calmati-202	Calmati-201	L-205	LSD
2004	Seedling Vigor Score ¹	4.9	4.9	4.8	0.2
2005		4.8	4.9	4.9	0.13
2004	Days to 50% Heading	88	90	82*	4
2005		84	87	94*	4.6
2004	Plant Height (cm)	92	104*	93	5.7
2005		98	108*	98	6.6
2004	Lodging (%)	33	2*	19	30
2005		70	28*	13*	20
2004	Grain Yield (14% moisture, lb/acre)	7570	8840*	10150*	1340
2005		6860	7690	9110*	1630
2004	Head rice Yield (%)	62	63	64	2.4
2005		54	58*	62*	3
2004	Greenhouse Blanking (%)	35	50*	8*	12
2005		35	35	8*	9
2004	Stem Rot Score ²	9.4	8.9	8.1	1.6
2005		6.0	6.2	6.6	0.8

¹ Seedling Vigor visual score where 1=poor and 5=excellent.

² Stem rot score where 0=no damage and 10=plant killed.

* Significantly different from Calmati-202 at 0.05 probability level.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Rice (*Oryza sativa*)

NAME OF APPLICANT (S) California Cooperative Rice Research Foundation, Inc.	TEMPORARY OR EXPERIMENTAL DESIGNATION 04-Y-153	VARIETY NAME Calmati-202
ADDRESS (Street and No. or RD No., City, State, and Zip Code, Country) Rice Experiment Station 955 Butte City Hwy. PO Box 306 Biggs, CA 95917		FOR OFFICIAL USE ONLY PVPO NUMBER #200700080

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the character of this variety in the spaces provided below. These numbers are also code numbers corresponding to descriptors developed by IBGR-IRRI Rice Advisory Committee and the US Rice Crop Advisory Committee. Breeders will demonstrate distinctness more readily by describing as many characters as is possible.

1. MATURITY: Days to Heading (Seedling to 50% Heading)

A. South: (Location: _____) at _____ kg/ha (Nitrogen Rate)

____ Number of Days

____ Days Earlier Than Check Variety: _____

____ Days Same As Check Variety: _____

____ Days Later Than Check Variety: _____

____ Maturity Class 1 = Very Early (85 Days or Less) 2 = Early (86 - 100)
3 = Intermediate (101 - 115) 4 = Late (More Than 115)

B. California: (Location: Biggs, CA) at 120 kg/ha (Nitrogen Rate)88 Number of Days

____ Days Earlier Than Check Variety: _____

____ Days Same As Check Variety: _____

6 Days Later Than Check Variety: L-205

2 Maturity Class 1 = Very Early (90 Days or Less) 2 = Early (91 - 97)
3 = Intermediate (98 - 104) 4 = Late (More Than 104)

2. CULM:

1 Angle (Degrees from Perpendicular after Flowering):

1 = Erect (Less than 30°) 3 = Intermediate (About 45°) 5 = Open (About 60°)

7 = Spreading (More than 60° but the culms do not rest on the ground)

9 = Procumbent (The culm or its lower part rests on the ground surface)

2. CULM: (continued)

LENGTH

#200700080

94 • 0 cm (Soil level to top of extended panicle on main stem)8 • 0 cm Shorter Than Check Variety: M-202Length Same as Check Variety: L-205 • cm Longer than Check Variety: 1 Height Class: 1 = Semidwarf 2 = Short 3 = Medium 4 = Tall1 Internode Color: (After Flowering): 1 = Green 2 = Light Gold 3 = Purple Lines 4 = Purple1 Strength (Lodging Resistance): 1 = Strong (no Lodging) 3 = Moderately Strong (Most Plants Leaning)
5 = Intermediate (Most Plants Lodged) 7 = Weak (Most Plants Flat)
9 = Very Weak (All Plants Flat)

3. FLAG LEAF: (After Heading)

24 • 7 cm Length13 • 3 mm Width3 Pubescence: 1 = Glabrous 2 = Intermediate 3 = Pubescent3 Leaf Angle (After Heading): 1 = Erect 3 = Intermediate 5 = Horizontal 7 = Descending1 Blade Color: 1 = Pale Green 2 = Green 3 = Dark Green 4 = Purple Tips
5 = Purple Margins 6 = Purple Blotch 7 = Purple1 Basal Leaf Sheath Color: 1 = Green 2 = Purple Lines 3 = Light Purple 4 = Purple

4. LIGULE:

19 • 9 mm Length (From base of collar to the tip, at late vegetative stage)1 Color: (Late Vegetative Stage): 1 = White 2 = Purple Lines 3 = Purple2 Shape: 1 = Acute to Acuminate 2 = 2-Cleft 3 = Truncate1 Collar Color (Late Vegetative Stage): 1 = Pale Green 2 = Green 3 = Purple1 Auricle Color (Late Vegetative Stage): 1 = Pale Green 2 = Purple

5. PANICLE:

19 • 1 cm Length5 Type: 1 = Compact 5 = Intermediate 9 = Open2 Secondary Branching: 1 = Absent 2 = Light 3 = Heavy 4 = Clustering3 Exsertion (Near Maturity): 1 = Less than 90% 2 = 90 – 99% 3 = 100% Exserted2 Axis: 1 = Straight 2 = Droopy1 Shattering: 1 = Very Low (Less Than 1%) 3 = Low (1 – 5%) 5 = Moderate (6 – 25%)
7 = Moderately High (26 – 50%) 9 = High (More than 50%)3 Threshability: 1 = Difficult 2 = Intermediate 3 = Easy

6. GRAIN: (Spikelet)

1 Awns (After Full Heading): 0 = Absent 1 = Short and Partly Awned 5 = Short and Fully Awned
7 = Long and Partly Awned 9 = Long and Fully Awned2, 6, 7 Apiculus Color (At Maturity) 1 = White 2 = Straw 3 = Brown (Tawny) 4 = Red
5 = Red Apex 6 = Purple 7 = Purple Apex1 Stigma Color: 1 = White 2 = Light Green 3 = Yellow 4 = Light Purple 5 = Purple

7

6. GRAIN: (Spikelet)

0 Lemma and Palea Color (At Maturity):

0 = Straw

3 = Brown Furrows on Straw

6 = Purple Spots on Straw

9 = Black

1 = Gold and/or Gold Furrows on Straw Background

4 = Brown (Tawny)

7 = Purple Furrows on Straw

10 = White

2 = Brown Spots on Straw (Piebald)

5 = Reddish to Light Purple

8 = Purple

4 Lemma and Palea Pubescence:

1 = Glabrous

2 = Hairs on Lemma Keel

3 = Hairs on Upper Portion

4 = Short Hairs

5 = Long Hairs (Velvety)

1 Spikelet Sterility (At Maturity):

1 = Highly Fertile (> 90%)

3 = Fertile (75 - 90%)

5 = Partly Sterile (50 - 74%)

7 = Highly Sterile (< 50% to Trace)

9 = Completely Sterile (0%)

#200700080

7. GRAIN: (Seed)

2 Seed Coat (Bran) Color:

1 = White

2 = Light Brown

3 = Speckled Brown

4 = Brown

5 = Red

6 = Variable Purple

7 = Purple

1

Endosperm Type:

1 = Nonglutinous (Nonwaxy)

2 = Glutinous (Waxy)

3 = Indeterminate

1

Endosperm Translucency:

1 = Clear

5 = Intermediate

9 = Opaque

1

Endosperm Chalkiness:

0 = None

5 = Medium (10 - 20% of Sample)

1 = Small (Less than 10% of Sample)

9 = Large (More than 20% of Sample)

2

Scent (Aroma):

0 = Nonscented

1 = Lightly Scented

2 = Scented

Shape Class (Length/Width Ratio):

3

Paddy

1 = Short (2.2:1 and Less)

2 = Medium (2.3:1 to 3.3:1)

3 = Long (3.4:1 and More)

3

Brown

1 = Short (2.0:1 and Less)

2 = Medium (2.1:1 to 3.0:1)

3 = Long (3.1:1 and More)

3

Milled

1 = Short (1.9:1 and Less)

2 = Medium (2.0:1 to 2.9:1)

3 = Long (3.0:1 and More)

Measurements:

Grain Form

Length
(mm)Width
(mm)Thickness
(mm)L/W
Ratio1000 Grains
(grams)

Paddy

10.7

2.4

-

4.4

29.0

Brown

8.3

2.1

-

3.9

23.7

Milled

7.15

1.95

-

3.66

20.3

22.1 Milling Quality (% Hulls)

59 Milling Yield (% White Kernel (head) Rice to Rough Rice)

% Protein

24 % Amylose

Alkali Spreading Value: 1.5% KOH Solution

5 1.7% KOH Solution

5 Gelatination Temperature Type:

1 = High

5 = Intermediate

7 = Low

Amylographic Paste Viscosity (Brabender Units)

Peak
224Hot Paste
130Cooled Paste
268"Breakdown" "Setback"
94/44

8. RESISTANCE TO LOW TEMPERATURE:

2

Germination and Seedling Vigor:

1 = Low

2 = Medium

3 = High

1

Flowering (Spikelet Fertility):

1 = Low

2 = Medium

3 = High

9. SEEDLING VIGOR NOT RELATED TO LOW TEMPERATURE:

3

Vigor:

1 = Low

2 = Medium

3 = High

10. BLAST RESISTANCE: (*Pyricularia oryzae*). (International races found under References)

0 = Immune 1 = Resistant 3 = Moderately Resistant 5 = Intermediate 7 = Moderately Susceptible 9 = Susceptible

Group	IB		IC		ID		IE		IG		IH	
Number	1	5	45	49	54	1	17	1	13	1	1	1
Resistance	—	—	—	—	—	—	—	—	—	9	—	—

11. RESISTANCE TO OTHER DISEASES:

0 = Immune 1 = Resistant 3 = Moderately Resistant 5 = Intermediate 7 = Moderately Susceptible 9 = Susceptible

___ Narrow Brown Leaf Spot (<i>Cerospora oryzae</i>)	5	Aggregate Sheath Spot (<i>Rhizoctonia oryzae-sativae</i>)
___ Leaf Smut (<i>Entyloma oryzae</i>)	___	Straight Head
___ Brown Leaf Spot (<i>Helminthosporium oryzae</i>) (= <i>Bipolaris oryzae</i>) (= <i>Drechslera oryzae</i>)	___	Kernel Smut (<i>Neovossia horrida</i>) (= <i>Tilletia barclayana</i>)
___ Leaf Scald (<i>Gerlachia oryzae</i>)	___	White Tip Nematode (<i>Aphelenchoides besseyi</i>)
___ Hoja Blanca Virus	5	Stem Rot (<i>Sclerotium oryzae</i>)
___ Sheath Rot (<i>Sarocladium oryzae</i>)	___	Bacterial Blight (<i>Xanthomonas campestris</i> pv. <i>oryzae</i>)
___ Pythium Seedling Blight (<i>Pythium</i> sp.)	___	Sheath Blight (<i>Rhizoctonia solani</i>)
___ Sheath Spot (<i>Rhizoctonia oryzae</i>)	___	
___ Other: _____		

12. INSECT RESISTANCE:

0 = Immune 1 = Resistant 3 = Moderately Resistant 5 = Intermediate 7 = Moderately Susceptible 9 = Susceptible

___ Grasshopper	___	Rice Stink Bug (<i>Oegalus pugnax</i>)
___ Rice Leafhopper	___	Swarm Caterpillar
___ Rice Hispa	9	Rice Water Weevil (<i>Lissorhoptrus oryzophilus</i>)
___ Rice Midge	___	Rice Stalk Borer (<i>Chilo plejadellus</i>)
___ Least Skipper	___	Sugarcane Borer (<i>Diatraea saccharalis</i>)

13. OTHER DESCRIPTORS: If there are other characters that describe this variety, please indicate below:**REFERENCES**

- C. R. Adair *et al.* 1972. Rice in the United States: Varieties and Production. USDA Handbook No. 289 (Rev.), 124 pp.
- J. G. Atkins *et al.* 1967. An International Set of Rice Varieties for Differentiating Race of *Pyricularia Oryzae*. Phytopath. 57:297-301.
- IBPGR-IRRI Rice Advisory Committee. 1980. Descriptors for Rice *Oryzae Sativa* L. International Rice Research Institute. 21 pp.
- K. C. Ling and S. H. Ou, 1969. Standardization of the international Race Numbers of *Pyricularia Oryzae*. Phytopath. 59:339-342.
- B. D. Webb *et al.* 1985. Utilization Characteristics and Qualities of United States Rice. In Proceedings on Rice Grain Quality and Marketing. International Rice Research Institute (IRRI), Los Branos, Philippines. P. 25-35.

Table 2. Grain Dimension in mm and Standard Deviation in () of Milled and Cooked Kernels of Calmati-202, Calmati-201 and Imported Basmati from 2004 and 2006 RES samples, Biggs, California.

Cultivar	Year	Length(L)	Width(W)	L / W	Cooked Kernels	
					Length	Elongation
Calmati-202	2004	7.15(0.42)	1.95(0.10)	3.66(0.25)	14.9(1.67)	2.1(0.19)
	2006	7.20(0.38)	1.97(0.09)	3.65(0.21)	15.2(1.53)	2.1(0.17)
Calmati-201	2004	6.52(0.40)	2.09(0.10)	3.12(0.25)	13.3(1.72)	2.0(0.17)
	2006	6.51(0.42)	2.11(0.11)	3.09(0.26)	13.4(1.55)	2.0(0.20)
Basmati import	2004	7.22(0.38)	1.72(0.08)	4.19(0.24)	17.4(1.41)	2.4(0.22)
	2006	7.19(0.41)	1.70(0.10)	4.22(0.26)	16.9(1.51)	2.4(0.19)

19. Exhibit C. Objective Variety Description – Rice - Attached

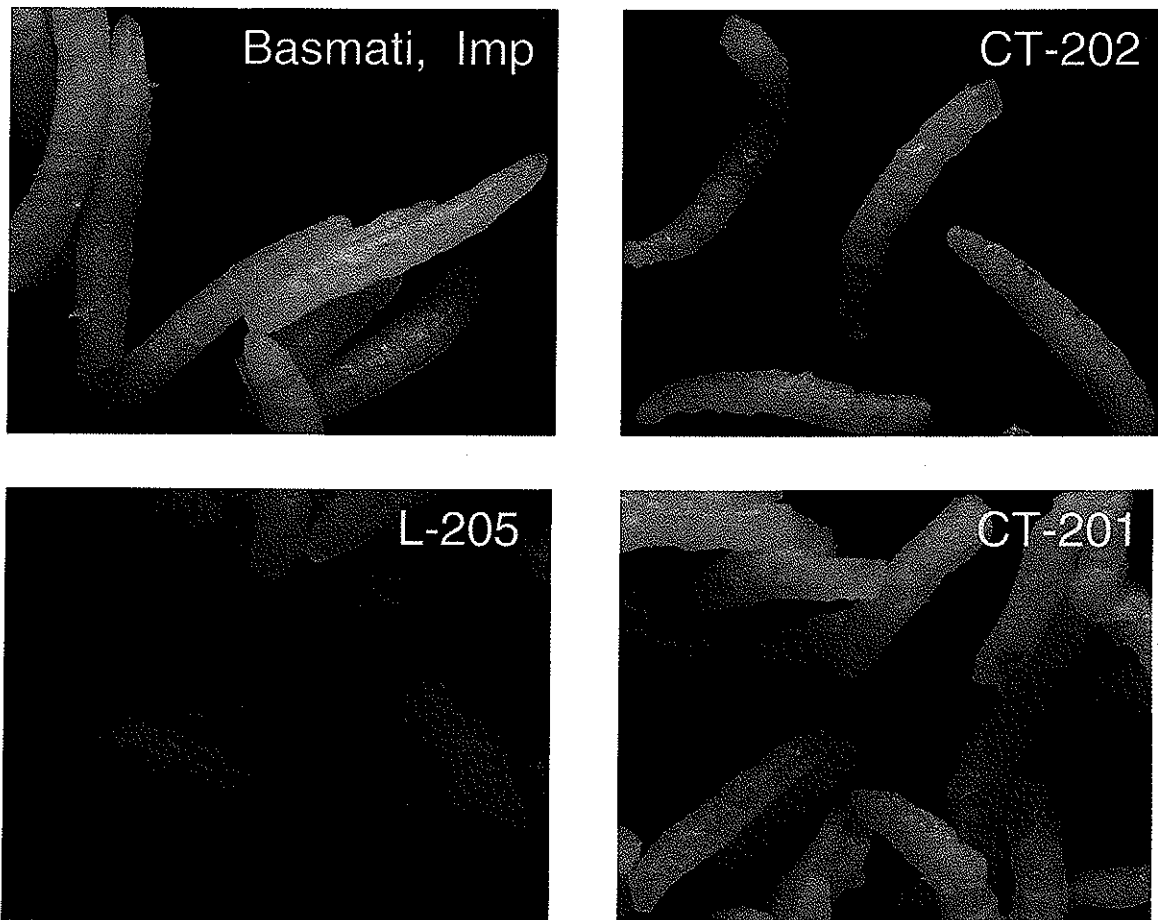


Figure 1- differences between cooked grains of ~~CT~~-202 compare with ~~CT~~-201, imported basmati, and Standard variety L-205.

CT = Calmati

RAD
10/15/07

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) California Cooperative Rice Research Foundation, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER 04-Y-153	3. VARIETY NAME Calmati-202
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) Rice Experiment Station 955 Butte City Hwy. PO Box 306 Biggs, CA 95917	5. TELEPHONE (Include area code) (530) 868-5481	6. FAX (Include area code) (530) 868-1730
7. PVPO NUMBER #200700080		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒

YES

☐

NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒

YES

☐

NO

10. Is the applicant the original owner?

☒

YES

☐

NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐

YES

☐

NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐

YES

☐

NO

If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

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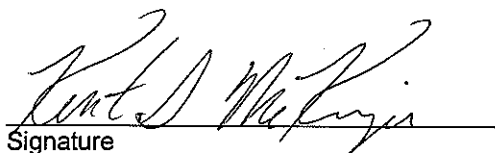
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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT F
DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S) California Cooperative Rice Research Foundation, Inc.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 955 Butte City Hwy. PO Box 306 Biggs, CA 95917	TEMPORARY OR EXPERIMENTAL DESIGNATION 04-Y-153 VARIETY NAME Calmati-202
NAME OF OWNER REPRESENTATIVE (S) Kent S. McKenzie	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 955 Butte City Hwy. PO Box 306 Biggs, CA 95917	FOR OFFICIAL USE ONLY PVPO NUMBER #200700080

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.


Signature

12-20-06
Date